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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,766

02/06/2004

Jack Y. Peng

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EXAMINER

MAI, NGOCLAN THI

ART UNIT

PAPER NUMBER

1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/774,766

Applicant(s)

PENG ET AL.

Examiner

Ngoclan T. Mai

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 7 and 10-13 is/are allowed.
- 6) ☒ Claim(s) 5, 6, 8-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment filed 12/19/06 has been entered. Claims 1-13 are under examination, wherein claims 1-9 are amended and claims 10-13 are added.
2. In the remark, line 7-12, page 9, applicant requested that the examiner to accept the term V_{Al} as total volume percentage of the aluminum phase for the reason that one skill in the art will clearly understand the physical meaning of the term V_{Al} in the equation. Examiner agrees with the applicant since V_M is defined as the total volume of the modulus phase, V_{Al} therefore cannot be anything else except that. Examiner however requests that applicant amend the specification to include this limitation should the claimed found allowable.

Claim Rejections - 35 USC § 112

3. Claims 5, 6, 8, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "nano aluminum oxide particles" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "nano-scale aluminum oxide particles" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 5 and 9 are indefinite because it is not clear whether applicant intends to claim the modulus ceramic particles per se or the nanocomposite in accordance of claim 4, wherein said modulus ceramic particles comprises the limitations as set forth in the claims.

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Similarly, claim 8 is indefinite because it is not clear whether nano-scale aluminum oxide particles per se is being claimed or the composite that containing the nano-scale aluminum oxide particles. Applicant is reminded that if modulus ceramic particles or nano-scale aluminum oxide particles per se are intended. They are not patentable over the applied prior art.

Status of previous rejections

4. Applicant's arguments, see page 13-16, filed 12/19/06, with respect to amended claims 1-5, 7-9 being anticipated by Meeks, III et al. have been fully considered and are persuasive. The rejection has been withdrawn. Applicant's arguments, see page 17-20 with respect to amended claims 1-5 and 7-8 as being anticipated by Sawtell have also been fully considered and are persuasive. This rejection has been withdrawn as well.

5. The following is an examiner's statement of reasons for allowance: Claims 1-4, 7, 10-13 are allowed in view of the combination of the amendment to claim 1 reciting the aluminum metal or an aluminum metal alloy particle with nano-scale surface aluminum oxide comprised of an aluminum metal or aluminum alloy inside of said particles and an aluminum oxide layer on the outside of the said particles and the limitation of volume percent of nano phase aluminum oxide needed in the particles defined by the equation as recited in the claims. Further, none of the references alone or in combination teach or suggest the nano phase aluminum oxide being controlled based on the amount of the aluminum or aluminum alloy, the modulus and the total nano phase aluminum oxide in the composite.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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